DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

TB Notes
No. 4, 2012

Dear Colleague:

This year-end issue of TB Notes provides an opportunity to reflect on some of the events of the past year and to remember the many accomplishments of TB control staff. This serves as a way to highlight the successes of the TB control community, and a reminder of the tremendous value of the important public health work you do. Please bear in mind that there are always more accomplishments than we have time and space to describe!

As you all know, at least 24 states from Florida to Maine and west to Michigan and Wisconsin were in the path of Hurricane Sandy, with New Jersey and New York experiencing particularly severe damage. DTBE program and laboratory consultants reached out to state and local TB programs affected by the storm to ascertain their status and needs. I am glad to report that our initial concerns about lost or displaced DOT patients have now dissipated. For those of you affected by this storm, please know that our thoughts and prayers are with you.

The World Health Organization's *Global Tuberculosis Report 2012* provides the latest data about the global TB epidemic and progress in TB care and control at global, regional, and country levels. Some of the report's key findings are as follows: New cases of TB have been falling for several years and fell at a rate of 2.2% between 2010 and 2011. The TB mortality rate has decreased 41% since 1990 and the world is on track to achieve the global target of a 50% reduction by 2015. However, the global burden of TB remains enormous. In 2011, there were an estimated 8.7 million new TB cases (13% in persons co-infected with HIV) and 1.4 million deaths from TB, including almost 1 million deaths among HIV-negative individuals and 430,000 among people who were HIV positive. TB is one of the top killers of women, with 300,000 deaths among HIV-negative women and 200,000 deaths among HIV-positive women in 2011. I encourage you to review this very useful and informative report.

This year sees the departure of several long-time DTBE senior staff. Mr. Greg Andrews retired in June, and Dr. Elsa Villarino and Mr. Joe Scavotto are departing at year's end. Elsa, who has served as the lead of the TB Trials Consortium (TBTC) for several years, is leaving DTBE in December for another position in CDC. Joe, Deputy Director of DTBE's Field Services and Evaluation Branch, is retiring in January. We cannot quite imagine DTBE without them and we wish them much happiness and success in the future.

We note with sadness the passing away this year of several former DTBE staff members, and we remember with gratitude their lives and contributions. Mr. Don Brown, who died in March, and Ms. Sha Juan Colbert, who died in February, were remembered in earlier issues of *TB Notes* this year. Ms. Pat Griffin passed away in September; we provide an "In Memoriam" note on Pat in this issue.

A highlight of the year was the announcement of the 2012 Charles C. Shepard Science Awards. We were very pleased to congratulate staff members (names of DTBE staff highlighted in bold type) who served as coauthors in the publication "Three months of rifapentine and isoniazid for latent tuberculosis infection," by TR Sterling, **ME Villarino, AS Borisov, N Shang**, F Gordin, **E Bliven-Sizemore**, J Hackman, CD Hamilton, D Menzies, A Kerrigan, SE Weis, M Weiner, D Wing, MB Conde, **L Bozeman,** CR Horsburgh Jr, RE Chaisson; TB Trials Consortium PREVENT TB Study Team. N Engl J Med. 2011 Dec 8; 365(23): 2155-66. This publication received one of the 2012 Charles C. Shepard Science Awards, in the Prevention and Control category. It was accepted by Andrey Borisov and Lorna Bozeman on behalf of their co-authors.

Dr. Peter Cegielski and colleagues published results of a study that used a geographic information system (GIS) to target high-risk neighborhoods for testing and treatment of LTBI. We include a summary of that interesting and important work in this issue.

Also this year, DTBE was pleased to announce the launch of the Spanish TB website, available at http://www.cdc.gov/tb/esp. The website provides a variety of basic TB information on exposure, testing, and treatment. It includes translated DTBE fact sheets, publications, and posters, as well as recorded video and audio podcasts in Spanish.

This issue includes two reports pertaining to the new 12-dose regimen for treatment of latent TB infection (LTBI). On Sept. 18, the first participant was successfully enrolled into TBTC Study 33. This study, called *iAdhere*, is evaluating self-administration of the 12-dose LTBI regimen; we provide a short report on that study.

As I review these and many other accomplishments of DTBE staff, which are too numerous to include here, I am again proud to be part of the impressive work that is routinely done by U.S. TB control workers. Thank you for your continued commitment and hard work, so much of which is done out of the public eye and without thanks. You are all public health heroes! Happy holidays, and please stay safe during the winter season.

Kenneth G. Castro, MD
Assistant Surgeon General, USPHS, &
Commanding Flag Officer
CDC/ATSDR Commissioned corps
Director, Division of Tuberculosis Elimination
National Center for HIV/AIDS, Viral Hepatitis,
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In This Issue

TB Notes

Centers for Disease Control and Prevention
Atlanta, Georgia 30333
Division of Tuberculosis Elimination ♦
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

TB Screening Practices of Civil Surgeons Evaluating Status Adjustors Seeking Permanent Residence in the United States -- New England, 2011

The authors presented this report as a poster at the 2012 National TB Controllers Workshop in Atlanta, Ga. The poster was the second place winner in the NTCA poster competition.

From July 1, 2010, to June 30, 2011, a total of 32,734 foreign-born individuals in New England applied to adjust their status to permanent residents (status adjustors or SAs). Screening SAs is one strategy for detecting infection with *M tuberculosis* in this high-risk group. SAs must undergo medical examinations, including TB screening, performed by licensed physicians designated by the US Citizenship and Immigration Services (USCIS). These physicians are called civil surgeons. CDC provides civil surgeons with technical instructions (TIs) for SA medical examinations. However, little is known about the characteristics and practices of these physicians.

In July 2011, surveys were mailed to all civil surgeons with viable addresses currently practicing in Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont. Respondents were asked about the characteristics of their practice, as well as their TB screening and follow-up procedures. Responses were analyzed using descriptive statistics; chi square or t-tests were used to test associations.

Of 143 civil surgeons to whom the survey was sent, 119 (83%) responded. The majority were in private practice (59%). The median number of years as a civil surgeon was 9. While their residency training was diverse, most (71%) attended medical school in the U.S; 34% received additional training beyond a primary residency.

All respondents used appropriate TB screening tests: 98% used tuberculin skin tests (TSTs) and 2% used interferon-gamma release assays (IGRAs). All respondents would obtain chest radiographs (CXR) for SAs with positive screening tests. The TIs also recommend a CXR for all SAs who are immunocompromised or have symptoms suggestive of TB. However, 57% and 29% of civil surgeons would not obtain a CXR for SAs who had a negative TST or IGRA and who were immunocompromised or symptomatic, respectively. If TB disease was suspected, 80% report or refer to the health department; 16% refer to a specialist only.

If LTBI was diagnosed, the majority of civil surgeons (70%) referred to specialists, other providers, or the health department, while 15% started treatment.

Of 119 respondents, 71 (60%) CS estimated the number of SA they evaluated in the past 12 months. The mean number of SA evaluated per year is higher among private providers than providers based at community health centers (CHC) (248 vs 46; $p=0.001$). Private providers were also more likely to have read the TIs (93% vs 67%, $p<0.001$) and to respond correctly to a case scenario about the interpretation of TSTs (90% vs 65%, $p=.002$). However, they were less likely than CHC providers to refer or start treatment for LTBI (87% vs 100%, $p=0.028$).

In conclusion, our results indicate that New England civil surgeons are largely adherent to the CDC TIs. Civil surgeons' characteristics vary by practice location. All used appropriate screening tests. However, many did not obtain CXR as recommended by the TIs for immunosuppressed or symptomatic SAs. Most civil surgeons refer SAs to other providers (e.g., a specialist, primary care provider, or health department) for TB disease and LTBI. Potential areas

for future training include appropriate use of CXR in screening and follow-up of TB suspects.

—Reported by Kelley Bemis, CSTE/ CT Dept of Public Health, Lynn Sosa and Alison Stratton, CT Dept of Public Health, Andy Tibbs and Jennifer Cochran, MA Dept of Public Health, and Mark Lobato and Alfonso Rodriguez Lainz, CDC

TB Notes is a quarterly publication of the Division of TB Elimination (DTBE) of the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Centers for Disease Control and Prevention (CDC). This material is in the public domain, and duplication is encouraged. For information, contact

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TB EDUCATION AND TRAINING NETWORK AND TB PROGRAM EVALUATION NETWORK UPDATES

2012 TB ETN & TB PEN Conference

The TB Education and Training Network (TB ETN) held its 12th annual conference September 18-20, 2012, in Atlanta, Georgia, in conjunction with the fourth annual TB Program Evaluation Network (TB PEN) Conference. Participants numbered 165 and represented state and local TB programs, nonprofit organizations, and academia, from across the United States and many countries.

This year's theme, *Lights, Camera, Action: Setting the Stage for TB Elimination* inspired exciting presentations and activities throughout the two and a half day meeting. Plenary topics included an overview of lessons learned from the smallpox eradication campaign; the importance of presenting TB data to partners and the public; how TB patient stories, insights, and perspectives can be incorporated into TB education; and how to use and evaluate video observed therapy. Breakout sessions provided participants an opportunity to delve further into topics such as how to enhance cohort reviews, design surveys, write comprehensive TB control program manuals, review low-cost tools for evaluation, understand cultural myths about TB, and how to conduct data analysis. A highlight of the conference was the PEN Focal Point Meeting followed by the ETN Focal Point Meeting.

This conference marked the third year for the TB Educator of the Year Award and the Project Excellence Award. These awards were established in 2010 to recognize excellence in TB health education and training by TB ETN members around the world.

The TB Educator of the Year award recognizes an individual who has shown dedication and leadership in the field of TB education and training. The recipient of the 2012 TB Educator of the Year Award is Linette McElroy. Linette is a TB health educator with many years of experience providing exceptional service as a registered nurse specializing in TB. She has served as a TB educator and practice consultant to regional, provincial, and federal public health agencies across Canada and the United States. She has designed and delivered numerous TB training curricula for both American and Canadian health care workers. Additionally, she has contributed to global

TB efforts through the World Health Organization, the International Union against TB and Lung Disease, and relief organizations by creating high quality TB educational materials for health care professionals, clients, and the general public.

Linette McElroy won the 2012 TB Educator of the Year Award.

Linette has been an active member of TB ETN for several years. She has contributed to the network in many different capacities. She currently is a co-chair of the TB ETN Membership Development Workgroup, serves as the international representative on the TB ETN Steering Committee, and has written countless articles on training and education for TB Notes.

Her passion and dedication have been most apparent in her tireless contributions to this conference. She always goes above and beyond to ensure that we have a great conference every year. As part of the Membership Development Workgroup, she is committed to making sure that new members are taken care of at the conference and works to put together the New Member Orientation each year. Her enthusiasm, dedication, and passion for her work are an inspiration to everyone in TB and she is truly a joy to work with.

The Project Excellence Award recognizes individuals or teams who have developed an exceptional health education and training product or activity within the past 2 years. The project that won this year's award is Social Marketing for TB Education with the Navajo Nation. This project was developed by a team consisting of Diana Fortune, Deborah Isaacks, Keila Pena-Hernandez, Sarah Yazzie, Tracey Lemm, Gayle Williamson, Norma Benally, Marina Veit, William John, Margaret Lee, Joann King, and Stuart Noble.

Social Marketing for TB Education with the Navajo Nation is a campaign designed to educate community members and health care workers about TB in the Navajo Nation. The need for this project was identified by a study conducted by the New Mexico TB Program, which indicated that both delay in diagnosis and delay in patients seeking treatment were significant factors in the high TB mortality rate in New Mexico.

This campaign made use of many different media formats, which included posters, billboards, a documentary of TB on the Navajo Nation, movie theatre ads, a radio ad, and clinician education at the Four Corners TB/HIV Conference and the UNIDOS Conference. This project demonstrates excellence in health education and training for its comprehensive TB education campaign spanning 2 years and utilizing multiple media formats.

Sarah Yazzie, Diana Fortune, and Deborah Isaacks were three of the recipients of the 2012 Project Excellence Award.

Congratulations to this year's award winners!

—Reported by Peri Hopkins, MPH
Div of TB Elimination

COMMUNICATIONS, EDUCATION, AND BEHAVIORAL STUDIES BRANCH UPDATES

CDC Patient Education Brochure Available:

12-Dose Regimen for Latent TB Infection

The Communications, Education, and Behavioral Studies Branch (CEBSB) in the Division of Tuberculosis Elimination (DTBE) at CDC developed a patient education brochure on the 12-dose treatment regimen for latent TB infection. This brochure was developed for clinicians to use with patients while discussing the 12-dose regimen. The brochure contains information on latent TB infection, the 12-dose regimen, treatment schedules, and adverse events. There is space on this brochure to write in treatment schedules and clinic/office contact information. The 12-Dose Regimen for Latent TB Infection-Patient Education Brochure (www.cdc.gov/tb/publications/pamphlets/12-doseregimen.htm) is available for download in two sizes:

- Letter sized (8.5x11) - To create brochure, print on 2 pages (front and back) and staple.

www.cdc.gov/tb/publications/pamphlets/12DoseLTBITreatmentbrochure8.5x11.pdf

- Ledger sized (11x17) - To create a brochure, print on 1 sheet of paper and fold in half.

www.cdc.gov/tb/publications/pamphlets/12DoseLTBITreatmentbrochure11x17.pdf

—Reported by Molly Dowling, MPH, CHES
Div of TB Elimination

DTBE Team Builds the Best Scarecrow Ever … and Provides TB Education

In August 2012, Dr. Wanda Walton, Chief of the Communications, Education, and Behavioral Studies Branch (CEBSB) in the Division of Tuberculosis Elimination saw an e-mail from the Atlanta Botanical Garden announcing its upcoming annual competition, *Scarecrows in the Garden*. Dr. Walton, not one to turn down a chance for fun and creative group activities, sent her branch an e-mail asking: Do you all want to participate in this? The branch responded almost in unison, Yes! So the project was afoot.

CEBSB staff simply thought they had found another outlet for their boundless creativity. But they were actually doing what they have decades of combined experience in accomplishing: finding a new (and whimsical) way to communicate about tuberculosis.

After several creative ideas were proposed, "Scare-let Crow'Hara" was adopted. As the name implies, the general appearance was to be Scarlett O'Hara in the famous scene in *Gone with the Wind* in which, to pay the taxes and save Tara, she decides to visit Capt. Rhett Butler in Atlanta and ask for money. Wanting to look well-off, not needy, she resorts to a dress made from lovely green velvet drapes hanging in her home.

But, you may be asking, what does all this have to do with tuberculosis? Well, indeed, the actress who played Scarlett O'Hara, Vivien Leigh, died in 1967 … of *tuberculosis*.

The final Scare-let Crow'Hara is a large, 6-foot-tall *crow*, wings and tail and all, in a green dress. Black feathers spill out from her really low-cut bodice, and hot pink lipstick adorns the end of her beak. One wing is bent at the "elbow" so she can hold her large bottle of TB pills; the bottle reads

TB Pills
Scaring away TB germs
so this frightful disease will be
gone with the wind.

Scare-let stands behind an eerily realistic looking tombstone that says,

Vivien Leigh
(alias Scarlett O'Hara)
Died of TB
1967

Cheryl Tryon, Health Education Specialist in CEBSB, provided overall guidance, instruction, and a serene "I actually know what I'm doing" attitude. She impressed the team by announcing that, whatever ideas we came up with or whatever challenges arose during the build process, she was certain that she could produce the appropriate tool needed to address it or resolve it. And she was right!

Scare-let grew up in the home of CEBSB's Dr. Joan Mangan, Behavioral Scientist, who has a basement perfect for such artistic projects. Joan also contributed many of the creative ideas and details of the project. Joan not only provided the studio space -- she and her mother, Joanrose Mangan, provided dinner and refreshments on many evenings to inspire and fortify the branch during the creative and building process.

Over the weeks, Scare-let grew from a spindly frame of PVC pipe, chicken wire, and a tomato cage, to a ravishing young crow. She is dressed in a full drop-cloth dress painted in two shades of green, and wearing one very fancy hat. Rhett would have had no chance of resisting this Scare-let! At least, that's CEBSB's not-so-humble opinion.

Prior to being transported to the Atlanta Botanical Garden, Scare-let visited the Division of Tuberculosis Elimination on September 25 for her social debut. She received visitors all day in the CEBSB Graphics room. She quite graciously agreed to being photographed with a steady stream of admirers, and daintily refused to nibble any of the treats her family had brought in. She looked ready to take on all challengers in the big contest for which she had been prepared.

Through this one project, we were able to build teamwork and raise awareness about TB. Dr. Ken Castro, Director, Division of Tuberculosis Elimination, made the observation, "Often times, we spend thousands of dollars on management consultants for team-building activities. You all took a relatively inexpensive activity, and turned it into a great team building experience!" All expenses for this activity were shared by the CEBSB staff ($25 entry fee, paint, other supplies), and participation was after regular work hours. Because everyone involved had such fun this year in the creation of Scare-let Crow'Hara, planning has already started for next year's entry!

Scare-let visited CDC prior to being transported to the Garden. Missing from photo: Ije Agulefo, Nakia Burgess, and Teresa Goss.

In the battle for the public's very short attention span, public health must be willing to use nontraditional means to educate the public. We educated people not only here at CDC, but throughout the city of Atlanta, through publicity in the following venues:

- Article on AccessAtlanta website
- Atlanta Journal-Constitution print article
- Atlanta Botanical Garden *Scarecrows in the Garden* event
- "Visit Scare-let at work" event
- Article in CDC Connects (internal employee website)

In the Atlanta Journal-Constitution article about the scarecrows in the Garden, Scare-let Crow'Hara was one of only eight scarecrows – out of all 117 entered -- whose photo was included in the article.

We hope all CDC staff in Atlanta had a chance to come out to the Atlanta Botanical Garden and visit Scare-let Crow'Hara—the biggest TB educational product CEBSB has developed!

—Submitted by Ann Lanner, Joan Mangan, Cheryl Tryon, and Wanda Walton
Div of TB Elimination

CLINICAL RESEARCH BRANCH UPDATES

First Study Participant Is Successfully Enrolled into TBTC Study 33!

Elsa Villarino, TB Trials Consortium (TBTC) Lead, and Andrey Borisov, Project Officer, are pleased to announce that on Sept. 18, the first participant was successfully enrolled into TBTC Study 33! This study, called iAdhere, is evaluating self-administration of the 12-dose latent TB infection (LTBI) regimen. It is an open label, randomized, controlled clinical trial conducted in multiple sites (USA, Spain, South Africa, Brazil, and Hong Kong) in patients diagnosed with LTBI. The primary objective of the trial is to evaluate adherence to a 3-month (12-dose) regimen of weekly rifapentine and isoniazid (3HP) given by directly observed therapy (DOT) compared to self-administered therapy (SAT). Treatment completion is the primary outcome; adherence will be assessed by self-report, pill counts, and medication event monitoring system (MEMS) caps. Secondary objectives of this clinical trial include evaluation of the use of weekly short messaging service (SMS) reminders as an intervention to maximize the adherence to SAT, and collection and evaluation of adverse events among patients receiving the new 3HP LTBI therapy. The trial plans to enroll about 1,000 patients (primarily in the USA) to be randomized into DOT, standard SAT, or enhanced SAT with weekly SMS reminders study arms. The study will be completed in 2013; results of the study will be used as the basis for policy concerning use of the 12-dose (3HP) regimen as a self-administered therapy. More information about the study can be found at http://clinicaltrials.gov/show/NCT01582711

—Reported by Andrey Borisov, MD, MPH
Div of TB Elimination

INTERNATIONAL RESEARCH AND PROGRAMS BRANCH UPDATES

Eliminating TB, One Neighborhood at a Time

This article summarizes a study that evaluated a strategy for preventing TB in communities most affected by it.

In 1996, the study investigators mapped reported TB cases (1985–1995) and positive tuberculin skin test (TST) reactors (1993–1995) in Smith County, Texas. They delineated the two largest, densest clusters, identifying two highest-incidence neighborhoods (180 square blocks, with 3,153 residents). After extensive community preparation, trained health care workers went door to door offering TSTs to all residents unless contraindicated. Those persons with TST-positive results were escorted to a mobile clinic for radiography, clinical evaluation, and isoniazid preventive treatment (IPT) as indicated. To assess long-term impact, the investigators mapped all TB cases in Smith County during the equivalent time period after the project.

Of 2,258 eligible individuals, 1,291 (57.1%) had skin tests placed. Of these, 1,236 (95.7%) had their skin test results read; 229 (18.5%) had positive TST reactions (10 mm induration or more), and 147 were treated for LTBI. From 1996 to 2006, there were *no TB cases* in either project neighborhood, in contrast

with the pre-intervention decade and the continued occurrence of TB in the rest of Smith County.

The investigators conclude that targeting high-incidence neighborhoods for active, community-based screening and IPT may hasten TB elimination in the United States.

—Reported by Peter Cegielski, MD
Div of TB Elimination

Reference
1. Cegielski JP, Griffith DE, McGaha PK, Wolfgang M, Robinson CB, Clark PA, Hassell WL, Robison VA, Walker KP Jr, and Wallace C. Eliminating tuberculosis one neighborhood at a time. Am J Public Health. Published online ahead of print October 18, 2012: e1–e9. doi:10.2105/AJPH.2012.300781.

LABORATORY BRANCH UPDATES

LB Expands Molecular Detection of Drug Resistance Service

The ability to rapidly and accurately detect drug resistance in *Mycobacterium tuberculosis* complex (MTBC) is critical for the effective treatment of patients suffering from TB and relevant interventions of TB control programs. Efforts to treat patients and control the spread of TB can be hindered by the emergence of MTBC resistant to both first and second line anti-TB drugs. Additionally, the slow growth rate of MTBC and inherent difficulties associated with conventional drug susceptibility testing methods often serve as impediments to obtaining timely results.

Since September 2009, the Laboratory Branch of CDC's Division of Tuberculosis Elimination has offered a service for molecular detection of drug resistance (MDDR) using conventional DNA sequencing for the identification of drug resistance associated mutations in isolates of MTBC. In June 2012, the service was expanded by incorporating pyrosequencing (PSQ) into the testing algorithm and by accepting nucleic acid amplification-positive (NAAT+) sputum sediments for testing to provide the ability for local providers and programs to potentially further reduce delayed diagnosis of multidrug-resistant (MDR) TB. The service allows rapid identification of MDR TB through the detection of genetic mutations associated with rifampin (RMP) and isoniazid (INH) resistance. In addition, when resistance to RMP is already known or detected in the MDDR service, genetic loci associated with resistance to ethambutol (EMB), pyrazinamide (PZA), and the most effective second-line drugs (i.e., fluoroquinolones [FQ] and the injectables amikacin [AMK], kanamycin [KAN], and capreomycin [CAP]), are examined. In addition, all isolates of MTBC will undergo conventional drug susceptibility testing since the absence of a mutation is not confirmation of drug susceptibility. Testing and reporting is CLIA compliant.

For more information, please go to http://www.cdc.gov/tb/topic/laboratory/default.htm.

—Submitted by Beverly Metchock, DrPH, D(ABMM)
Reference Laboratory Team Lead, DTBE/LB

A Revitalized Focus on Pyrazinamide Is Essential for Tuberculosis Elimination

Pyrazinamide (PZA) is still a unique and essential agent for tuberculosis therapy in combination with both current and new drugs. Early data from studies show the importance of PZA for any regimen that might use a new anti-tuberculosis drug. A series of national meetings have drawn attention to this issue.

In May 2011, the National Institutes of Health (NIH) hosted a workshop, "Essentiality of PZA." The gathering laid the groundwork for exploring the subject further in-depth. Richard Hafner of NIH's Division of Acquired Immunodeficiency Syndromes (DAIS) concluded that "PZA has potent sterilizing activity and is a highly important drug in current anti-tuberculosis combination therapy. Unfortunately, while PZA-resistant TB has been increasing worldwide, rapid and reliable diagnostic tools for the detection of PZA-resistant TB are still unavailable. This presents a major barrier for treatment, especially

for multidrug-resistant and extensively drug-resistant disease. PZA is the least understood anti-TB drug due to its complex mechanisms of action and obstacles in establishing animal models for PZA testing."

In December 2011 in Atlanta, CDC hosted a meeting to review in detail our research activities related to PZA in order to enhance alignment with NIH and Food and Drug Administration (FDA) goals and priorities. The Global Alliance for TB Drug Development was also in attendance. CDC presented information on the surveillance of PZA resistance, experience in providing clinical microbiologic service, and preliminary results on approaches to improve drug susceptibility testing for PZA. A series of concrete actions steps were laid out for the various federal agencies to strengthen internal U.S. government interaction. The goal was to facilitate ongoing partner planning and efforts to advance PZA drug susceptibility testing in both the short-term and long-term. Assistant Surgeon General Kenneth G. Castro, USPHS and co-chair of the Federal TB Task Force remarked on the importance of ongoing inter-agency discussion tied to concrete tracking of action.

In September 2012 in Baltimore, in follow-up, NIH and Johns Hopkins University hosted a broader, partner workshop: "Demystifying PZA—Challenges and Opportunities." Topics included mechanisms of action; drug resistance and associated testing; combination therapy; and toxicity. In-depth presentations in these four areas led to lively and stimulating discussion, capitalizing on previous meetings and contributing significantly to the growing momentum needed to tackle the issues. The next step was announcement of a NIH-sponsored "TB Diagnostics Research Forum," designed to facilitate future dialog and collaboration; this will be the subject of a future report to TB Notes.

Fortunately, all three meetings are well documented on the World Wide Web on the site of the Stop TB Partnership's Working Group on New TB Drugs, including slides and film of the presentations. We encourage you to visit and become part of the effort to improve the understanding and place of PZA in TB elimination.

—Reported by Michael Iademarco, MD, MPH, and Jamie Posey, PhD
Div of TB Elimination

References

1. http://www.newtbdrugs.org/meetings/pza-workshop.php
2. http://www.newtbdrugs.org/downloads/resource-docs/2011-12-25-Summary-PZA-Day-at-CDC.pdf
3. http://newtbdrugs.org/meetings/pza-workshop-2012.php

SURVEILLANCE, EPIDEMIOLOGY, AND OUTBREAK INVESTIGATIONS BRANCH UPDATES

DTBE's Annual Surveillance Report – What's New?

The Division of Tuberculosis Elimination's annual surveillance summary, *Reported Tuberculosis in the United States, 2011,* features several notable enhancements. This year's report includes reporting of HIV/TB data by states that did not previously report HIV test results. As a result, data completion for HIV test results increased in 2011 by 20% for all ages and by 22% for persons aged 25–44. Another new table depicts trend data by Hispanic ethnicity and non-Hispanic race, by origin of birth, for years 1993 – 2011. The report also includes a new table of TB cases by homeless status among those 15 years of age or older, stratified by metropolitan statistical area (MSA). Tables presenting trends for multidrug-resistant (MDR) and isoniazid (INH)-resistant TB are now stratified by location of birth and by previous TB status.

The slide set contains a new slide depicting trend data of TB cases reporting homelessness among those 15 years of age or older, for years 1993-2011. An additional slide in the slide set depicts trend data of TB cases by residence in correctional facilities among those 15 years of age or older for years 1993-2011.

The report features a special section dedicated to data from the US-affiliated Pacific Islands. This special section is accompanied by a slide set.

The report is available to download in full at http://www.cdc.gov/tb/statistics/reports/2011/. In addition to making the full report available as a PDF, users may browse through individual tables and download slides for use in their own presentations. The online TB surveillance report is simple to use and very convenient.

These key changes to the annual surveillance summary and improved online access provide an overall better document for CDC, state and local partners, researchers, and the general public.

—Reported by Carla Jeffries, MPH
Div of TB Elimination

Predicting U.S. Tuberculosis Case Counts by Foreign-Born Country of Origin

The following information was presented as a poster by DTBE's Rachel Yelk Woodruff, MPH, Carla Winston, PhD, and Roque Miramontes, PA-C, MPH, at the 2012 National TB Workshop in Atlanta, Georgia. It won the first place award in the NTCA poster competition.

This report describes an analysis to predict the number of TB cases diagnosed in the United States from the top 5 countries of birth through 2020. TB case counts reported to the National Tuberculosis Surveillance System from 2000-2010 were log-transformed. Linear regression was performed on the log-transformed case counts to calculate predicted annual case counts and 95% prediction intervals for the years 2011-2020 for U.S.-born TB cases, foreign-born cases, foreign-born cases from the top 5 countries of birth, and foreign-born cases excluding the top 5 countries of birth.

Highlights from the prediction analyses results presented in the poster include:

- A continued increase in the proportion of TB cases diagnosed in the U.S. among foreign-born persons
- Decreases in U.S.-born and foreign-born TB cases from 2010 observed to 2020 predicted estimates
  - Steeper decline among U.S.-born than foreign-born
  - Potential increase in foreign-born from India and China
  - Top 5 countries of birth impact the decline among foreign-born
- Of the top 5 countries of birth for foreign-born TB cases--
  - Reliable declines could be predicted only for Vietnam
  - The remaining countries (Mexico, Philippines, India, and China) have potential for increase or decrease, based on model results and 95% prediction interval

A main limitation of the model presented is that it did not take into account programmatic, social, or cultural factors; TB rate in country of birth; migration patterns; socioeconomics; implementation of TB Technical Instructions; guidelines for TB screening of foreign-born persons entering the U.S.; or TB control in country of birth.

In conclusion, predicting foreign-born cases will assist TB control programs in concentrating limited resources where they can provide the greatest impact on reducing the burden of TB disease and will guide development of culturally competent outreach and materials.

—Reported by Rachel Yelk Woodruff, MPH
Div of TB Elimination

NEW CDC PUBLICATIONS

Althomsons S, Kammerer S, Shang N, Navin T. Using routinely reported tuberculosis genotyping and surveillance data to predict tuberculosis outbreaks. PLoS One 2012 Nov. 7; online at http://dx.plos.org/10.1371/journal.pone.0048754.

Balakrishnan S, Vijayan S, Nair S, Subramoniapillai J, Mrithyunjayan S, Wilson N, Satyanarayana S, Dewan PK, Kumar AM, Karthickeyan D, Willis M, Harries AD, Nair SA. High Diabetes Prevalence among Tuberculosis Cases in Kerala, India.

Cavanaugh JS, Shah NS, Cain KP, Winston CA. Survival among patients with HIV infection and smear-negative pulmonary tuberculosis - United States, 1993–2006. PLoS ONE 7(10): e47855. doi:10.1371/journal.pone.0047855.

Cegielski JP, Griffith DE, McGaha PK, Wolfgang M, Robinson CB, Clark PA, Hassell WL, Robison VA, Walker KP Jr, and Wallace C. Eliminating tuberculosis one neighborhood at a time. Am J Public Health. [E-pub ahead of print.] October 18, 2012: e1–e9. doi:10.2105/AJPH.2012.300781.

Cegielski P, Nunn P, Kurbatova EV, Weyer K, Dalton TL, Wares DF, et al. Challenges and controversies in defining totally drug-resistant tuberculosis. Emerg Infect Dis [Internet]. 2012 Nov. http://dx.doi.org/10.3201/eid1811.120256

Chawla H, Lobato MN, Sosa LE, ZuWallack R. Predictors for a positive QuantiFERON-TB-Gold test in BCG-vaccinated adults with a positive tuberculin skin test. J Infect Public Health (2012), http://dx.doi.org/10.1016/j.jiph.2012.06.003

Cuevas LE, Browning R, Bossuyt P, Casenghi M, Cotton MF, Cruz AT, Dodd L, Drobniewski F, Gale M, Graham R, Grzemska M, Heinrich N, Hesseling AC, Huebner R, Jean-Philippe P, Kumar Kabra SI, Kampmann B, Lewinsohn D, Li M, Lienhardt C, Manadalakas A, Marais BJ, Menzies HJ, Montepiedra G, Mwansambo C, Oberhelman R, Palumbo P, Russek-Cohen E, Shapiro DE, Smith B, Soto-Castellares G, Starke JR, Swaminathan S, Wingfield C, Worrell C. Evaluation of Tuberculosis Diagnostics in Children: 2. Methodological issues for conducting and reporting research evaluations of TB diagnostics for intrathoracic tuberculosis in children. Consensus from an expert panel. *J Infect Dis* 2012; 205:S209-215.

Dalton T, Cegielski P, Akksilp S, Asencios L, Caoili JC, Cho SN, Erokhin VV, Ershova J, Gler MT, Kazennyy BY, Kim HJ, Kliiman K, Kurbatova E, Kvasnovsky C, Leimane V, van der Walt M, Via LE, Volchenkov GV, Yagui MA, Kang H; the Global PETTS Investigators. Prevalence of and risk factors for resistance to second-line drugs in people with multidrug-resistant tuberculosis in eight countries: a prospective cohort study. Lancet. 2012 Aug 29. [Epub ahead of print.]

Ershova JV, Kurbatova EV, Moonan PK, Cegielski JP. Acquired resistance to second-line drugs among persons with tuberculosis in the United States. Clin Infect Dis. 2012 Aug 31. [Epub ahead of print.]

Falzon D, Gandhi N, Migliori GB, Sotgiu G, Cox H, Holtz TH, Hollm-Delgado MG, Keshavjee S, Deriemer K, Centis R, D'Ambrosio L, Lange C, Bauer M, Menzies D. Resistance to fluoroquinolones and second-line injectable drugs: impact on MDR-TB outcomes. Eur Respir J. 2012 Oct 25. [Epub ahead of print.]

Favorov M, Ali M, Tursunbayeva A, Aitmagambetova I, Kilgore P, Ismailov S, Chorba T. Comparative tuberculosis (TB) prevention effectiveness in children of Bacillus Calmette-Guérin (BCG) vaccines from different sources, Kazakhstan. *PLoS One* 2012; 7(3): e32567. http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0032567

Gandhi MP, Kumar AM, Toshniwal MN, Reddy RH, Oeltmann JE, Nair SA, Satyanarayana S, Dewan PK, Mannan S. Sputum smear microscopy at two months into continuation-phase: should it be done in all patients with sputum smear-positive tuberculosis? *PLoS ONE*. 2012;7(6):e39296. Epub 2012 Jun 19.

Ghosh S, Moonan PK, Cowan LS, Grant J, Kammerer S, Navin TR. Tuberculosis Genotyping Information Management System: Enhancing Tuberculosis Surveillance in the United States. Infection, Genetics and Evolutions, 12 (4), June 2012, 782-788. Online at http://dx.doi.org/10.1016/j.meegid.2011.10.013

He GX, Wang LX, Chai SJ, Klena JD, Cheng SM, Ren YL, Ren LP, Gao F, Li YY, He GM, Li JB, Wang Y, Rao C, Varma JK. Risk factors associated with tuberculosis infection among health care workers in Inner Mongolia, China. Int J Tuberc Lung Dis. 2012 Sep 7. [Epub ahead of print.]

Hong S, Cheng TY, Layre E, Sweet L, Young DC, Posey JE, Butler WR, Moody DB. 2012. Ultralong c100 mycolic acids support the assignment of Segniliparus as a new bacterial genus. *PLoS ONE* 2012; 7(6): e39017.

Howard AA, Gasana M, Getahun H, Harries A, Lawn SD, Miller B, Nelson L, Sitienei J, Coggin WL. PEPFAR support for the scaling up of collaborative TB/HIV activities. J Acquir Immune Defic Syndr. 2012 Aug 15;60 Suppl 3:S136-44.

Iademarco MF, Koh WJ. 2011. The year in review. Part II: tuberculosis and lung disease. Int J Tuberc Lung Dis. 2012 October; 16(10): 1291-1299.

Iademarco MF, O'Grady J, Lönnroth K. Chest radiography for tuberculosis screening is back on the agenda [Editorial]. Int J Tuberc Lung Dis 2012 Nov 1; 16 (11): 1421-1422.

Kattan JA, Sosa LE, Lobato MN. Tuberculosis mortality: death from a curable disease, Connecticut, 2007-2009. Int J Tuberc Lung Dis. 2012 Dec;16(12):1657-62. doi: 10.5588/ijtld.12.0169.

Kawamura LM, Grinsdale JA, Ho CS, Jereb JA. Interferon-gamma release assays for prediction of tuberculosis. Lancet Infect Dis. 2012 Aug;12(8):584.

Kurbatova EV, Gammino VM, Bayona J, Becerra M, Danilovitz M, Falzon D, Gelmanova I, Keshavjee S, Leimane V, Mitnick CD, Quelapio MID, Riekstina V, Taylor A, Viiklepp P, Zignol M, Cegielski JP. Predictors of sputum culture conversion among patients treated for multidrug-resistant tuberculosis. Int J Tuberc Lung Dis. 2012; 16(10):1–9.

Lambert LA, Pratt RH, Armstrong LR, Haddad MB. Tuberculosis among healthcare workers, United States, 1995–2007. Infection Control and Hospital Epidemiology 2012 Nov; 33(11): 1126-1132.

Liu Y, Painter JA, Posey DL, Cain KP, Weinberg MS, Maloney SA, Ortega LS, Cetron MS. Estimating the impact of newly arrived foreign-born persons on tuberculosis in the United States. PLoS One. 2012;7(2):e32158. Epub 2012 Feb 27.

Manangan LP, Magee E, Tryon C, Miramontes R. Innovative quality-assurance strategies for tuberculosis surveillance in the United States. Tuberculosis Research and Treatment 2012; doi:10.1155/2012/481230. www.hindawi.com/journals/trt/2012/481230.

Mancuso JD, Mazurek GH, Tribble D, Olsen C et al. Discordance among commercially available diagnostics for latent tuberculosis infection. American Journal of Respiratory and Critical Care Medicine 2012 Feb 15; 185 (4): 427-34.

McCarthy KD, Cain KP, Winthrop KL, Udomsantisuk N, Lan NT, Sar B, Kimerling ME, Kanara N, Lynen L, Monkongdee P, Tasaneeyapan T, Varma JK.Am J Respir Crit Care Med. 2012 May 1;185(9):981-8. Epub 2012 Feb 16. PMID:22345581 [PubMed - indexed for MEDLINE] Nontuberculous mycobacterial disease in patients with HIV in Southeast Asia.

Migliori GB, Sotgiu G, Gandhi NR, Falzon D, Deriemer K, Centis R, Hollm-Delgado MG, Palmero

D, Pérez-Guzmán C, Vargas MH, D'Ambrosio L, Spanevello A, Bauer M, Chan ED, Schaaf HS, Keshavjee S, Holtz TH, Menzies D; The Collaborative Group for Meta-Analysis of Individual Patient Data in MDR-TB. Drug resistance beyond XDR-TB: results from a large individual patient data meta-analysis. Eur Respir J. 2012 Oct 11. [Epub ahead of print].

Nahid P, Kim PS, Evans CA, Alland D, Barer M, Diefenbach J, Ellner J, Hafner R, Hamilton CD, Iademarco MF, Ireton G, Kimerling ME, Lienhardt C, Mac kenzie WR, Murray M, Perkins MD, Posey JE, Roberts T, Sizemore C, Stevens WS, Via L, Williams SD, Yew WW, Swindells S. Clinical research and development of tuberculosis diagnostics: moving from silos to synergy. J Infect Dis 2012; 205: S159–S68.

Odhiambo FO, Laserson KF, Sewe M, Hamel MJ, Feikin DR, Adazu K, Ogwang S, Obor D, Amek N, Bayoh N, Ombok M, Lindblade K, Desai M, Ter Kuile F, Phillips-Howard P, van Eijk AM, Rosen D, Hightower A, Ofware P, Muttai H, Nahlen B, Decock K, Slutsker L, Breiman RF, Vulule JM. Profile: The KEMRI/CDC Health and Demographic Surveillance System--Western Kenya. Int J Epidemiol. 2012 Aug; 41(4): 977-87.

Padayatchi N, Mac Kenzie WR, Hirsch-Moverman Y, Feng PJ, Villarino E, Saukkonen J, Heilig CM, Weiner M, El-Sadr WM. Lessons from a randomised clinical trial for multidrug-resistant tuberculosis. Int J Tuberc Lung Dis. 2012 Dec;16(12):1582-7. doi: 10.5588/ijtld.12.0315.

Paul D, Busireddy A, Nagaraja SB, Satyanarayana S, Dewan PK, Nair SA, Sarkar S, Ahmed QT, Sarkar S, Shamrao SR, Harries AD, Oeltmann JE. Factors associated with delays in treatment initiation after tuberculosis diagnosis in two districts of India. *PLoS One*. 2012;7(7):e39040. Epub 2012 Jul 9.

Roth S, Whitehead S, Thamthitiwat S, Chittaganpitch M, Maloney S, Baggett H, Olsen J. Concurrent influenza virus infection and tuberculosis in patients hospitalized with respiratory illness in Thailand Influenza and other Respiratory Viruses 2012 Jul 21. doi: 10.1111/j.1750-2659.2012.00413.x. [Epub ahead of print.]

Shin SS, Asencios L, Yagui M, Yale G, Suárez C, Bayona J, Bonilla C, Jave O, Contreras CC, Atwood S, Blaya JA, Ershova J, Cegielski JP. Impact of rapid drug susceptibility testing for tuberculosis: program experience in Lima, Peru. Int J Tuberc Lung Dis 2012 Sep 14. [Epub ahead of print.]

Taylor AB, Kurbatova EV, Cegielski JP. Prevalence of anti-tuberculosis drug resistance in foreign-born tuberculosis cases in the U.S. and in their countries of origin. PLoS ONE November 7, 2012; http://dx.plos.org/10.1371/journal.pone.0049355.

Weiner B, Gomez J, Victor TC, Warren RM, Sloutsky A, Plikaytis BB, Posey JE, van Helden PD, Gey van Pittius NC, Koehrsen M, Sisk P, Stolte C, White J, Gagneux S, Birren B, Hung D, Murray M, Galagan J. Independent large scale duplications in multiple M. tuberculosis lineages overlapping the same genomic region. PLoS One. 2012;7(2):e26038. Epub 2012 Feb 7.

Whitworth WC, Hamilton LR, Goodwin DJ, Barrera C, West KB, Racster L, Daniels LJ, Chuke SO, Campbell BH, Bohanon J, Jaffar AT, Drane W, Maserang D, Mazurek GH. Within-subject interlaboratory variability of QuantiFERON-TB Gold In-Tube tests. PLoS One 2012; 7(9): e43790.

Winston CA, Menzies HJ. Pediatric and adolescent tuberculosis in the United States, 2008–2010. *Pediatrics*. 2012; 130(6).

Zhang Y, Sun K, Yu L, Tang Z, Huang S, Meng Z, Zheng Y, Wen Y, Zhu H, Chen RY, Varma JK, Zhang F. Factors associated with survival among adults with HIV-associated TB in Guangxi, China: a retrospective cohort study. Future Virol 2012 September; 7(9): 933-942.

PERSONNEL NOTES

Brian Baker, MD, has departed DTBE/SEOIB after completing his EIS training and is now serving as the new FSEB Field Medical Officer assigned to the Los Angeles Department of Health Services. In his new position in California, Brian will be the first Field Medical Officer (FMO) assigned to Los Angeles from DTBE/FSEB. He'll serve as the Medical Epidemiologist within LA County's TB Control Program and provide leadership over the Research and Epidemiology Unit and will be a fully functioning member of the Medical Consultation Unit, consulting regularly with physicians from either the public or private sectors. Furthermore, Dr. Baker will provide direction and guidance to three epidemiologists.

While with SEOIB, Brian led multiple TB outbreak investigations and supported his colleagues as a team member on several others. As part of the Molecular Epidemiology Activity, Brian evaluated the TB Genotyping Information Management System (TB GIMS) after its successful launch and identified opportunities to improve the timely completion of records into the database. Brian, along with Dr. Lindsay Kim, co-authored the first published TB genotyping annual report, a comprehensive review of TB genotyping data reported to the CDC. In addition, in collaboration with IRPB, Brandy Peterson (FSEB), and Emma Johns (Medical Experience Fellow), Brian led an evaluation of the scale-up and provision of collaborative TB-HIV services in Guyana.

Brian is a graduate of the University of California, Berkeley, and the University of California, San Francisco, School of Medicine. After extending medical school to work with the Institute for OneWorld Health on visceral leishmaniasis in India, and spend time in Tanzania working for the Axios Foundation on HIV prevention efforts, Brian completed an Emergency Medicine Residency at New York University.

Brian contributed greatly to DTBE's and SEOIB's mission, and though the Division is sad to see him leave Atlanta, we look forward to collaborating with him as a colleague in California. Please join SEOIB and FSEB in congratulating Brian on his new role!

Scott Cope, Julia Interrante, Ann Lockard, and Kristen Renneker arrived October 1 to serve as Emory Rollins School of Public Health Practical Experience Students in SEOIB for the 2012-2013 academic year. They will have opportunities to learn about TB surveillance, participate in outbreak investigations, and assist with TBESC research activities. Welcome, Kristen, Scott, Ann, and Julia!

Chad Heilig, PhD, has transferred from his position in the Clinical Research Branch to a position as Team Lead for the Biostatistics Team in the Data Management and Statistics Branch. In late 1997, fresh from filing his dissertation, Chad began work with CDC's Division of Reproductive Health (DRH). While in DRH, he joined a CDC institutional review board and became interested in research ethics, especially in clinical trials. In late 2004, he moved into CDC's Office of the Chief Science Officer, where he reformed and oversaw CDC's human research protection program. In 2007, he joined the TB Trials Consortium (TBTC) data center as the in-house methodologist. Since he started with TBTC, Chad has helped to bolster the integrity of TBTC study design, data management, and analysis. He has also developed collaborative and mentoring relationships with clinicians, epidemiologists, applied mathematicians, physicists, and philosophers, among others. In his new position, Chad anticipates spending 40% of his time on technical contributions, 50% on mentoring and teaching, and 10% on Division-level leadership activities related to his areas of expertise. He will continue to provide technical guidance and mentoring within TBTC as part of his new responsibilities, and will continue to provide consultative support to TBTC's Core Science Group and to consortium-wide meetings. This new position aligns with Chad's long-term goals, and we in DTBE are glad that he will be continuing to serve both TBTC and the Division as a whole. While Chad continues to mentor analysts at the TBTC data center, Dr. Bill Mac Kenzie will temporarily assume some of Chad's leadership and administrative

responsibilities, including handling of data requests from collaborators outside CDC.

Jasmine Jacobs, MPH, has joined FSEB for a 6-month assignment as a Public Health Prevention Service (PHPS) Fellow. Jasmine is from Kansas City, Missouri, and received a B.A. from Stanford University, where she studied Human Biology. She received an MPH degree from Columbia University, where she specialized in Sociomedical Sciences. Jasmine's public health experience includes working with women's reproductive health issues, educating young people about health care reform, mobilizing communities in Queens for cancer prevention, and working to improve social media for health communications in Brazil.

Carla Jeffries, SEOIB, was selected as the winner of the DTBE Director's Recognition Award for the fourth quarter of 2012 for her exceptional work in responding to requests for TB data. During each year DTBE receives requests for data from numerous agencies and individuals throughout the United States and abroad. Examples of requestors include WHO, CDC leadership, Congress, and individual researchers. Carla Jeffries is the point person for these requests, and she responds to them accurately and often on the same day we receive those requests. If the request for data is not clearly stated, Carla makes contact with the individual making the request to ensure they 1) understand what information is available; and 2) are provided the most accurate and complete information we are able to provide. It is rare for branch leadership to not receive an email from the requestor expressing their gratitude for the information Carla provides.

Especially noteworthy this past quarter, Carla's work quality, productivity, and timeliness in responding to urgent data requests related to preparing for the budget briefing of the CDC Director was exceptional. Intense activity occurred to bring together an enormous amount of data to inform the NTCA-DTBE Formula Funding Work Group about the impact of numerous formula options. This work was intensified during that last month when the recommendation made by the Work Group was presented to Dr. Tom Frieden on February 27.

Carla was responsible for fulfilling requests for surveillance data by analyzing and abstracting data from the NTSS data set, often going back 19 years. These requests often came with a 24-hour deadline and always with the understanding that even the slightest error could risk embarrassing the Division Director in the very public forum of a briefing of the Agency Director.

With the cheerfulness of someone who has supreme confidence in her SAS programming skills, and with the skill of someone who knows the NTSS data set in great detail, she answered every request accurately and on time. This is all the more remarkable because an initial request for a data analysis would often be followed by a request for more details, or a request for the same data formatted in a different way. Congratulations to Carla for this well-deserved honor!

Lindsay Kim, MD, has departed DTBE/IRPB upon completion of the EIS program and is now serving as a Medical Epidemiologist in the Respiratory Diseases Branch, Division of Bacterial Diseases, National Center for Immunization and Respiratory Diseases. In her new position, Lindsay will work on the Branch's global pneumococcal and pneumonia prevention efforts, and serve as the CDC lead for domestic invasive pneumococcal disease surveillance activities. Lindsay will oversee a portfolio of over 50 projects that are part of the Active Bacterial Core surveillance conducted in 10 US states. The projects will focus on monitoring pneumococcal disease trends, evaluating the impact of pneumococcal vaccine, and informing vaccination policy. She will also be providing technical consultation to resource-poor countries on the impact of pneumococcal conjugate vaccine, the quality of invasive bacterial disease surveillance, and pneumonia etiology and burden assessment activities.
While with IRPB she was very productive. She published a first-author manuscript about screening

for highly infectious TB in people living with HIV/AIDS in the Journal of Acquired Immunodeficiency Syndromes (JAIDS) with DTBE co-authors Chad Heilig and Kevin Cain, a Morbidity and Mortality Weekly Report presenting the first TB genotyping annual report (with DTBE co-author Brian Baker), and two additional papers accepted for publication: "Adherence to Concurrent Tuberculosis Treatment and HIV Antiretroviral Treatment Regimens in South Africa" (with DTBE co-author Laura Podewils), and "Epidemiology of Recurrent Tuberculosis in the United States, 1993–2010" with DTBE co-authors Patrick Moonan, Rachel Yelk Woodruff, Steve Kammerer and Maryam Haddad. In addition, she provided technical assistance to the South Africa National Department of Health to assess the yield of intensified TB case finding, and led an investigation of an increase in the number of TB cases among residents of the Navajo Nation in Arizona and New Mexico.

Lindsay is a graduate of the University of North Carolina at Chapel Hill. After receiving her MD from Emory University and her MPH in epidemiology and biostatistics from Johns Hopkins Bloomberg School of Public Health, she completed her internal medicine/primary care residency at Beth Israel Deaconess Medical Center in Boston.

Lindsay's enthusiasm, hard work, positive energy and dedication will be greatly missed by all of us in DTBE, but we are delighted to see that she is able to continue her interest in global health. She will no doubt contribute to the strengthening of NCIRD activities. Please join us in wishing Lindsay the very best in her new role!

Heather Menzies, MD, is leaving DTBE in early December 2012 for a TB/HIV Advisor position in the Division of Global HIV/AIDS with CDC-Namibia, based in Windhoek. In this position, Heather will serve as a Technical Advisor to the Namibian Ministry of Health and Social Services (MOHSS) to assist in the improvement and expansion of effective diagnosis, treatment, prevention, and monitoring of TB, with particular emphasis on HIV-related TB. She will help further guide the development of the CDC-Namibia TB and TB/HIV program implementation strategy, focusing on technical support to the Namibian National TB and HIV/AIDS Programs. She will also help to address TB/HIV program priorities, support program evaluation and operational research, and continue to work closely with the Division of TB Elimination.

As many of you know, Heather has been the focal point for childhood TB and has done an outstanding job within and outside CDC, collaborating with others to strengthen the evidence base for determining the global burden and improving the diagnosis and management of TB in children. Although we are sad about Heather leaving the Division, she will be in a key position to facilitate IRPB/DTBE's collaborative work in Namibia and southern Africa.

Please join us in thanking Heather for the important work she has done to advance the mission of the Branch/Division and CDC in combating global TB. Congratulations to Heather on this exciting new position!

Joe Scavotto, Deputy Director of the Field Services and Evaluation Branch, Division of Tuberculosis Elimination, will retire on January 4, 2013, after 38½ years of service to public health, its programs, goals, and employees, and most of all, the people who are in need of its services.

Raised in Broad Brook, Connecticut, home of Christmas tree and cigar wrapper farms, Joe had intended to follow his father into dentistry. But the lure of venereal disease control in New York City in September of 1974 was too tempting for this country lad, so off he went as a new CDC "Co-op" to Jamaica Queens, NY, where he was promptly mugged on his first day on the job.

Undaunted in his quest to control syphilis and gonorrhea, his 2 years of hard work were rewarded with a promotion and conversion to a full-time Federal position as the lead Venereal Disease Investigator (VDI) in the Corona, Queens, clinic. While there he supervised a stunningly beautiful, brilliant, and talented New Yorker named Shelley who

was a Title X Family Planning Program VDI. Joe would later marry Shelley after she chased and proposed to him.

Though Shelley's funding was cut, along with her position, Joe was again promoted and served on the mean streets of the Bronx where he was known to co-workers as the "Bronx Beacon," owing to his vibrant red hair and ghostly white skin.

In November 1977, just 6 hours after Joe and Shelley returned from their honeymoon, he was notified that he was being transferred to Milwaukee, Wisconsin. So in January 1978, they braved three incoming snowstorms to get there. This proved to be a premonition to Joe; his projected tenure was shortened to only 1 year when the state ejected all their federal assignees.

Transferred to Oakland County, Michigan, in January 1979, Joe was able to once again demonstrate his superior skills, resulting in another promotion in February 1980 and a then rare in-state transfer to the Detroit VD program at Herman Kiefer Hospital as a first-line supervisor.

In September 1983, Joe was transferred to CDC headquarters in Atlanta to work as the Public Health Advisor (PHA) Recruiting Coordinator in the Field Services office of the then Center for Prevention Services (CPS). It was a position he especially relished, being able to hire the next generation of dedicated and talented PHAs. It also reunited him with Jerry Naehr, who had served as the "Fearless Leader" of the NYC VD program. The fact that Jerry had a vacancy on his CDC bowling team, and that Joe was a great bowler, had no bearing whatsoever on his getting this job.

To this very day, Joe will deny a "Scavotto curse," but after 4 idyllic years, the recruiting program was severely curtailed. However, Joe accepted an offer from John Seggerson (he with the keen eye for talent) to join the TB program. So in November 1987, he became an outreach PHA in the Fulton County, GA, TB program.

In November 1989, Joe moved to Baltimore, Maryland, as the TB program manager. There he developed two programs: one, in conjunction with Johns Hopkins School of Medicine, was to train preventive medicine residents in TB clinical medicine; the other was to institute a city jail TB program. One day the legendary Dr. David Glasser, under whom Joe worked, decided to tag along for a visit to the jail. The subsequent death of this innovative physician, 2 days after Joe insisted they walk to their destination, was a huge loss to the Baltimore City Health Department and TB prevention and control in general, and of course, in no way an indication of any "curse."

Nevertheless, in November 1991, Joe was assigned to the Montgomery, Alabama, TB program and promoted to senior PHA for the state TB program. It was not the happiest of assignments for a variety of reasons, so he was glad in August 1993 that he was transferred back to CDC Atlanta, this time to the Division of Tuberculosis Control headquarters, to be a program consultant.

Upon arrival in Atlanta, Joe was immediately detailed to work on the task force assembled to coordinate an emergency response in support of the Midwest states that were coping with devastating floods. Upon completion of this assignment, he reported to his new post and served the state and local programs and the TB field staff in his region. Joe's dedication was rewarded in January 1997 when he was promoted to serve as one of two Field Operations section chiefs.

In June 2001, Joe achieved his next career goal when he was chosen to be Deputy Chief of the Field Services (and later Evaluation) Branch. His work as a section chief/team lead, and later as Deputy Branch Chief in FSEB, has been most highly regarded at all levels of DBTE owing to his responsiveness to TB controllers, managers, and field staff, and his

assistance at many levels in improving program performance.

It is from this latter position that he retires, eager to begin the next stage of his life. Echoing the words of his recently retired great friend and cohort, Greg Andrews, Joe will miss most of all the public health friends and colleagues with whom he has worked over the years.

Joe has always been a great hobbyist, and now plans to dive headfirst into some of his favorites:

- He has been a nationally licensed race official for the Sports Car Club of America (SCCA) for over 30 years. In addition to the SCCA, Joe has worked as a corner marshal at tracks all over North America for professional series such as IndyCar and the American LeMans Series.
- Joe still bowls in a weekly league, this one for high rollers, and at the ripe old age of 63, carries a 210 average. He is in pursuit of his third 300 game.
- Throughout his life, Joe has been a model builder, mostly cars. During the last 20 years, he has become an accomplished scratch builder of large-scale car models of all eras and categories. In the last 5 years, he has garnered a number of awards and had his cars photographed for major hobbyist magazines. He recently began a model of a 1933 Cadillac V-16 Town Car, having just completed a 1967 Lola T70 Mk III race car.

Most of all, Joe looks forward to having more time to spend with his best friend and companion, his biggest fan, and the "mama" to his two furry boys: the still stunningly beautiful, brilliant, and talented Shelley.

DTBE is planning a celebration of Joe's career. The event will be held on December 14, 2012, at CDC's Corporate Square campus, Bldg. 8, from 2 pm to 4 pm. Vivian Siler is the DTBE point of contact for this celebration and will be collecting all contributions and special notes for Joe. Please send your RSVP, as well as your notes and personal mementos, to Vivian at vas6@cdc.gov. If you wish to contribute to a gift for Joe, contact Vivian at 404-639-5319. Mark your calendars and plan to be there!

Margarita Elsa Villarino, MD, MPH, epidemiologist in DTBE's Clinical Research Branch and Team Lead for the TB Trials Consortium, will be leaving DTBE in mid-December. She has accepted an assignment as a senior member of the U.S.-Mexico Unit in CDC's Division of Global Migration and Quarantine (DGMQ), with an official duty location of Mexico City, Mexico. In so doing she returns to her home country as a CDC assignee, where she will advance CDC's infectious disease activities in Mexico and the U.S.-Mexico border region, with particular emphasis on the activities of the Division of Influenza and DGMQ. She will interact closely with the Secretaria de Salud's General Directorate of Epidemiology (DGE), the National Public Health Reference Laboratory (InDRE), the National Center for Epidemiologic Surveillance and Disease Control (CENAVECE), the National Tuberculosis Program, the Pan American Health Organization (PAHO), Cure TB and TB Net, and other border health entities and organizations. Priority projects will include mutually agreed upon binational infectious disease epidemiology projects, with emphasis on influenza and binational surveillance, enhancement of binational TB case tracking, and integration of panel physician TB diagnosis and treatment with the Mexican national TB control system. In addition, she will contribute to the training of epidemiologists in the Mexico Preventive Medicine Residency (PMR) program and binational exchanges of personnel with CDC. She will move to this new post in early 2013.

In communicating earlier with the colleagues with whom she had been working in the TB Trials Consortium, Elsa wrote: "I will soon leave behind the best job a person could possibly have at CDC and anywhere [working as Team Lead with the TBTC in the Clinical Research Branch]. Pablo Neruda said: 'To feel the love of people whom we love is a fire that feeds our life,' and all of you have been part of the fire that has fed my life for the last 20 years. I will take your fire with me wherever I go and forever. But I believe the other fires that sustain our lives are the fires of change and new challenges, as well as the

fire that comes from serving and giving back to the people and the regions we come from. I am grateful to you at the TBTC study sites, to the wonderful institution of CDC, and to DTBE, for making my career what it has been and thus preparing me for this exciting new opportunity. I will work very hard to accomplish it with success."

Elsa earned her MD at the Universidad Autonoma de Baja California (UABC). She interned at the Hospital General in Tijuana, and later earned an MPH degree at San Diego State University. She came to CDC in 1988 as an EIS officer in the Hospital Infections Program, where she worked with Bill Jarvis. She often spoke of the good fortune she felt in gaining that initial position with a superb CDC supervisor. She completed a PMR year with the Division of STD Prevention, and in 1991 joined Dr. Larry Geiter in the Clinical Research Branch in DTBE. She has served in that branch for 21 years, building a distinguished career as an expert in all aspects of TB research and control. She has authored original research, and drafted guidelines and recommendations, in virtually all areas of TB control, including epidemiology, therapeutics, prevention, diagnostics, and vaccines. For the past 10 years she has served in key leadership positions for CDC's TB Trials Consortium. This year, the publication of results from TBTC's Study 26, for which she was project officer and co-investigator, earned CDC's highest scientific prize, the Charles C. Shepard Science award. That study publication reported on a much-shortened regimen for treatment of latent TB infection. She has built highly successful public-private partnerships with industry; has been a popular lecturer for a decade in the CDC-Emory Rollins course on Epidemiology of TB Control; and has built a national and international reputation, with invitations to speak on tuberculosis in locations as diverse as Argentina, Barcelona, Brazil, Hong Kong, London, Mexico, and Paris.

Elsa's impact in the Branch and the Division has been significant, and her departure will leave a considerable gap. We wish her every success in meeting the new challenges she has chosen. She invites friends and colleagues to join her in Mexico City for the world's best tamales, tortas, and tacos.

In Memoriam

Pat Griffin Davis, age 77, passed away September 20, 2012, at Gwinnett Medical Center from a heart attack. She had worked for CDC for 35 years and had retired on December 31, 1999. She worked as a statistical assistant in DTBE's Field Services Branch from 1993 to the time of her retirement. Prior to that, she worked in the Surveillance and Epidemiology Branch. Pat's attention to detail and cheerful, gracious personality made her an indispensable member of any office she worked in.

CALENDAR OF EVENTS

December 4–5, 2012
Meeting of the Advisory Council for the Elimination of Tuberculosis (ACET)
Atlanta, GA
Division of Tuberculosis Elimination (DTBE)

January 28–February 1, 2013
TB Program Manager's Course
Atlanta, GA
DTBE

February 6–7, 2012
3rd Semiannual TBESC Meeting
Atlanta, GA
DTBE

February 28–March 2, 2013
17th Annual Conference of the Union – North America Region
Vancouver, BC, Canada
International Union Against Tuberculosis and Lung Disease (UNION)

April 10–13, 2013, and October 9–12, 2013
The 50th Annual Denver Course
Denver, Colorado
National Jewish Health